

CLAIMS

- 5 1. A solid stick insecticidal composition comprising a base, an insecticide and at least 60 wt% food material, the composition having a penetration hardness of from 0.1 to 5mm.
- 10 2. The insecticidal composition of claim 1 comprising at least 65 wt%, preferably at least 70wt% and more preferably at least 75 wt% food material.
- 15 3. The insecticidal composition of claim 1 comprising up to 99.99 wt% food material.
4. The insecticidal composition of claim 1 comprising food material selected from  
(i) carbohydrates;  
20 (ii)protein/carbohydrate containing materials;  
(iii)fatty or oily materials; and mixtures thereof.
5. The insecticidal composition of claim 4, in which the carbohydrates are selected from  
25 (i) honey;  
(ii)sugars including monosaccharides and dissaccharides;  
(iii)polysaccharides and complex carbohydrates including cellulosic materials, pectin and starches; and mixtures thereof.
- 30 6. The insecticidal composition of claim 4, in which the protein/carbohydrate containing materials are selected from:  
(i) cereal products,  
35 (ii)flour, including soy flour;  
(iii)spices;

- (iv) vegetable products including dehydrated vegetables;
  - (v) dried yeast;
  - (vi) egg powder;
  - (vii) insect-derived materials including silkworm
- 5           pupa, eggs and body parts; and mixtures thereof.

7. The insecticidal composition of claim 4, in which the fatty or oily materials are selected from:
- (i) lipids;
  - 10   (ii) essential oils;
  - (iii) fully hydrogenated fatty acids;
  - (iv) vegetable oils;
  - (v) animal-derived fats;
  - (vi) esters;
  - 15   (vii) waxes;
  - (viii) soaps;
  - (ix) phospholipids;
  - (x) glycolipids;
  - (xi) terpenes;
  - 20   (xii) steroids; and mixtures thereof.

8. The insecticidal composition of claim 1 comprising at least 10, preferably at least 20 and more preferably at least 30 wt% of a base.

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9. The insecticidal composition of claim 1 comprising a base ingredient selected from a fatty alcohol, a fatty acid, an fatty ester including lower alkyl esters of fatty acids, castor oil, mineral oil,
- 30   petroleum jelly, polyethylene glycol, monoalkanolamide, carnauba wax, candelilla wax, amorphous hydrocarbon wax, petroleum-based wax including microcrystalline wax, beeswax, paraffin wax, cocoa butter, hydrogenated vegetable oil,
- 35   lanolin, lanolin absorption base, paraffin oil, lecithin, silicone wax, flour, monoglyceride and

animal derived-fat including tallow, lard, suet and duck fat, or mixtures thereof

- 5 10. The insecticidal composition of claim 1 comprising one or more dual functionality materials acting as both a food material and a base ingredient.
- 10 11. The insecticidal composition of claim 10, in which the dual functionality material is selected from hydrogenated palm oil, tallow, lard, suet, duck fat, fatty acid monoglyceride, flour, lecithins or mixtures thereof.
- 15 12. The insecticidal composition of claim 1 in which the base comprises an emulsifying agent or mixtures thereof.
- 20 13. The insecticidal composition of claim 1, in which the insecticide is selected from a pyrethroid, a neonicotinoid, an avermectin, a spinosyn, a hydramethylnon, a fluorinated sulfluoramide, an organophosphate, a pyrazole, a chlorfenapyr, a indoxacarb, a borate, a benzoylphenyl urea, a carbamate, a hydrazone and mixtures thereof.
- 25 14. The insecticidal composition of claim 13, in which the insecticide comprises an organophosphate.
- 30 15. The insecticidal composition of claim 14, in which the organophosphate is chlorpyrifos.
16. The insecticide composition of claim 13, in which the insecticide comprises a pyrazole.
- 35 17. The insecticide composition of claim 16, in which the pyrazole is fipronil.

18. The insecticide composition of claim 13, in which the insecticide comprises an indoxacarb.
- 5 19. The insecticidal composition of claim 1 comprising the insecticide in an amount of from 0.01 to 40 wt%, preferably from 0.01 to 20 wt% and more preferably from 0.01 to 10 wt% of the insecticide.
- 10 20. The insecticidal composition of claim 1 comprising an insect attractant.
21. The insecticidal composition of claim 20, in which the food material also functions as an attractant.
- 15 22. The insecticidal composition of claim 21, in which soy bean oil is a food material and an attractant.
23. The insecticidal composition of claim 21, in which  
20 honey is a food material and an attractant.
24. The insecticidal composition of claim 21, in which malt extract is a food material and an attractant
- 25 25. The insecticidal composition of claim 21, in which maple lactone is a food material and an attractant.
26. The insecticidal composition of claim 25, in which maple lactone is present in an amount of from 0.001  
30 to 1 wt%, preferably from 0.005 to 0.5 wt % of the insecticide composition.
27. The insecticidal composition of claim 20 comprising an attractant which does not function as a food  
35 material.

28. The insecticidal composition of claim 1, further comprising a preservative.
29. The insecticidal composition of claim 28, in which  
5 the preservative is present in an amount of from 0.0001 to 10 wt% of the insecticide composition.
30. The insecticidal composition of claim 28, in which  
10 the preservative is selected from sorbic acid and salts thereof, methylparaben, propylparaben and mixtures thereof.
31. The insecticidal composition of claim 1 further comprising an anti-oxidant.
- 15 32. The insecticidal composition of claim 31, in which the anti-oxidant is present in an amount of from 0.0001 to 10 wt% of the insecticide composition.
- 20 33. The insecticidal composition of claim 31, in which the anti-oxidant is selected from TBHQ, butylated hydroxytoluene, butylated hydroxyanisole and mixtures thereof.
- 25 34. The insecticidal composition of claim 1 further comprising a human taste deterrent
- 35 35. The insecticidal composition of claim 34, in which the human taste deterrent is present in an amount of  
30 from 1 to 200 ppm of the insecticide composition.
36. The insecticidal composition of claim 34, in which the human taste deterrent is denatonium benzoate.
- 35 37. The insecticide composition of claim 1 further comprising a colorant.

38. The insecticidal composition of claim 1 further comprising a component selected from a feeding stimulant, and a filler, an animal taste deterrent of mixtures thereof.
39. The insecticidal composition of claim 1 having a penetration hardness of from 0.5 to 5 mm.
40. The insecticidal composition of claim 39 having a penetration hardness of from 1 to 5 mm.
41. The insecticidal composition of claim 40 having a penetration hardness of from 1 to 4 mm.
42. The insecticidal composition of claim 1 having a melting point of at least 20 °C.
43. The insecticidal composition of claim 1 having a setting point in the range from 20 to 200°C, preferably from 30 to 70°C and more preferably from 45 to 55 °C.
44. The method for controlling insects in which a solid stick insecticidal composition of claim 1 is applied to deposit the composition onto a hard surface to be treated.
45. The method for controlling insects of claim 44, in which the insecticidal composition is applied to the hard surface as a line of material by drawing the stick along the hard surface.
46. The method for controlling insects of claim 44, in which the insecticidal composition is applied as a series of spots on the hard surface.

47. The method for controlling insects of claim 44, in which the insecticidal composition is applied as an arbitrary smear on the surface.
- 5 48. The method for controlling insects of claim 44, in which the insects are crawling insects.
49. The method for controlling insects of claim 48, in  
10 which the insects are cockroaches.
50. An insect control product comprising a solid stick insecticidal composition of claims 1 and a package.
- 15 51. The insect control product of claim 50 in which the package also comprises a protective wrapping over the package containing the insecticidal composition.
52. The insect control product of claim 51 in which the  
20 protective wrapping comprises paper, plastic, fabric, metal foil or a laminate thereof.
53. The insect control product of claim 51, in which the wrapping includes a tear line or point of weakness at  
25 a location or one or more intervals along the length of the wrapping thus allowing for progressive removal of circumferential strips of wrapping.
54. The insect control product of claim 50 in which the  
30 package comprises an applicator including a bottom, in which is held one end of the stick, and a tubular lid, which at least partially encloses the insecticidal stick.

55. The insect control product of claim 50 in which the package comprises an applicator in which the insecticidal stick is extendable from a casing.
- 5 56. The insect control product of claim 50 in which the package or wrapping comprises a label.
57. The insecticidal composition of claim 1 having a melting point of at least 35°C.
- 10 58. The insecticidal composition of claim 1 having a melting point of at least 40°C.
59. The insecticidal composition of claim 1 having a melting point of at least 45°C.